I. Remarks

Reconsideration and allowance of the subject application are respectfully requested. Applicant respectfully traverses all art rejections.

Claim 35 is pending in the application. Claim 35 is previously presented and independent.

Claim 35 has been rejected by the Examiner under 35 U.S.C. 103(a) based upon Kalley. The Examiner states that Kalley discloses the lighting source should be in the form of LED's, which may emit in the UV range (i.e. below 400nm), as well as in the visible range (i.e. 400 to 500nm). The Examiner also states that Kalley explicitly provides for particular narrow bandwidths within the broader illustrative ranges in the visible and UV spectra. The Examiner concludes per MPEP §2144.05 that a prima facie case of obviousness exists as the Applicant's claimed range falls within the ranges set forth in Kalley.

Assuming that a prima facie case of obviousness has been made, which is not admitted, the Applicant notes the remainder of MPEP §2144.05 which provides that once a prima facie case of obviousness has been made, the Applicant may rebut the prima facie case of obviousness by showing either that the range is critical, generally by showing that the claimed range achieves unexpected results relative to

the Kalley range, or Kalley teaches away from the claimed invention.

The invention as claimed provides unexpected results when compared against Kalley, and Kalley teaches away from the claimed invention as discussed in detail below.

CRITICAL RANGE - UNEXPECTED RESULTS

The Applicant refers to the interview of 29 October 2003 in which the Applicant demonstrated to the Examiner and others that the claimed invention provides unexpected results by providing, among other claimed features, a specific range of emitted radiation from the light source at which leak detection dye is well identified by the naked eye without detrimental effect on low light or night vision, namely violet, near ultraviolet radiation having most of its energy within a visible range from 395 to 415 nanometers in order to produce fluorescence of leak detection dye. The visible radiation provides a targeting effect that directs an operator to an area where fluorescence may occur. The targeting effect is enhanced when it is in the form of a narrow beam of approximately 30 degrees or less that projects directionally intense radiation, as further set out in the claim.

At the October 29, 2003 interview Applicant compared a light source falling within claim 35 to a functionally identical light source that emits radiation falling outside the range in claim 35, namely in a blue range of approximately 440 nanometers (the "blue light"). The "blue light" falls within the 400-500 nanometer range the Examiner says that Kalley provides. It was evident that the light source falling within claim 35 provided the discussed beneficial results when compared to the "blue light".

The Examiner states that particular dyes may require a particular spectral range. Therefore, those practicing the Kalley invention would likely expect that the spectral output of the lighting device (and thus the particular LED's) would be selected depending on which dye is present, and would thus be somewhat variable.

This statement appears to be saying that a particular range can be chosen based on the peak wavelength at which the dye reacts. The Applicant notes that Kalley supports this statement, see for example col. 1, lines 47-52. Thus, a designer utilizing peak wavelength matching as taught by the Kalley specification for use with the dye used in the interview would have come up with the "blue light".

The Applicant notes that the range chosen by the Applicant is chosen not to match the peak wavelength at

which the dye reacts, rather it is chosen because the wavelength provides acceptable reemitted radiation from the dye, while limiting detrimental effects of reflected visible incident light, while also providing a targeting effect by the reflected incident light.

The Applicant notes that Kalley does not teach choosing a range that provides a targeting effect in combination with acceptable reemitted radiation and limited detrimental effect of reflected visible incident light.

The Examiner notes that Kalley explicitly discloses that the LED's may be selected to have a narrow spectral output, so as to avoid the need for filters. Kalley teaches filtering of incident radiation in order to minimize the amount of incident (exciting) radiation viewed by the operator. In addition to narrowing the spectral output of the light source, Kalley teaches filtering of incident (exciting) radiation by the operator through the use of a filter lens so that only wavelengths emitted by the dye, i.e. non-incident (dye emitted) wavelengths, reach the operator (see col. 7, 43-55). Yellow filter glasses that are often used for this purpose were shown to the Examiner during the interview.

Thus, it would be surprising to Kalley that there is a critical range of reflected visible incident radiation that is in fact desirable, and that a light source should be

chosen to emit violet, near ultraviolet radiation having most of its energy within a visible range from 395 to 415 nanometers in order to produce fluorescence of leak detection dye. The claimed invention provides synergism as it provides greater than expected result in combining a targeting effect with acceptable reemitted radiation and limited detrimental effect of reflected visible incident light. This provides a significant, practical advantage.

TEACHING AWAY

As set out above, Kalley expressly teaches away from the desirability of reflected visible incident light. Kalley teaches that incident (excitation) visible light is necessary for those dyes that react best to it, but such incident (excitation) light is to be filtered out by the operator upon reflection.

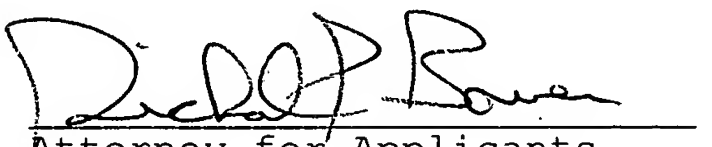
Conversely, the invention as claimed expressly requires the use of a specific range of emitted radiation from the light source at which leak detection dye is well identified by the naked eye without detrimental effect on low light or night vision, namely violet, near ultraviolet radiation having most of its energy within a visible range from 395 to 415 nanometers in order to produce fluorescence of leak detection dye. Such radiation provides a desirable targeting effect.

Conclusion

In view of the above remarks, it is believed that this application is now in condition for allowance, and a Notice thereof is respectfully requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 625-3507. All correspondence should continue to be directed to our address given below.

Respectfully submitted,



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